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(54) Title: TRANSITION METAL COMPLEXES, ESPECIALLY IRON COMPLEXES, USED AS A CATALYST COMPONENT IN THE POLYMERISATION OF OLEFINS

$$(Y)_{m} = E^{2} L^{1}$$

$$(Y)_{m} L^{2} L^{1}$$

$$(I)$$

(57) Abstract: The present invention relates to compounds of formula (I) wherein each of X, Y, Z is independently selected from 0, S, NR¹, CR²R³, N and CR⁴, and where optionally X-Y, Y-Z, Z-E¹ and X-E² each independently form part of a saturated or unsaturated ring system which may be substituted or unsubstituted; m is 0 or 1; M is a metal selected from Ti[III], Ti[IV], Fe[II], Fe[III], Co[II], Co[II], Ni[II], Ni[II], Mn[III], Mn[III], Mn[IV], Ru[II], Ru[III], Ru[IV], Pd[II], V[III], V[IV], V[V], Cu[I], Cu[II], Rh[II], Mo[III], Mo[VI], Re[I] and Re[II]; each of E¹ and E² is independently selected from O, S, NR⁵, N, P, PR⁶, where at compound has an overall charge of zero or +1; L¹ is NR⁷R⁸, PR⁷R⁸, OR⁷, SR⁷, O, S or NR¹⁶, imidazolyl, pyridinyl, benzimidazolyl or quinolinyl; each of R¹⁻⁸and R¹⁶ is independently H or a hydrocarbyl group; Q is a linker group; and r is 0 or 1. Further aspects of the invention relate to catalyst compositions comprising compounds of formula (I), and their use in the polymerisation of olefinically unsaturated monomers.

